



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,768	02/25/2000	Randell L. Mills	62-226-ion	6782
20736	7590	07/29/2002	EXAMINER	
MANELLI DENISON & SELTER 2000 M STREET NW SUITE 700 WASHINGTON, DC 20036-3307			WELLS, NIKITA	
			ART UNIT	PAPER NUMBER

2881

DATE MAILED: 07/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/513,768

Applicant
R.L. Mills

Examiner
Nikita Wells

Art Unit
2881



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on January 28 and February 14, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-209 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-209 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8, 10, 12, & 13 6) ☐ Other:

Art Unit:

DETAILED ACTION

1. The Applicant filed an Response to the Office Action received January 28, 2002, where he made an in-depth analysis of the rebuttal of the rejection of the claims and pointed out the errors in the thinking of the Examiner as to the rejections in question. Subsequently, the Applicant filed a "Supplemental Amendment to the Office Action" received February 14, 2002, where he added new claims 11-209. Claims 11-108 relate to the power source originally being prosecuted in claims 1-10. New claims 109-205 relate to a method of operating a cyclotron. New claims 206-209 relate to catalysts for forming lower-energy hydrogen.

The Applicant argued that the theory is substantiated by compelling experimental evidence which confirms the existence of a lower-energy hydrogen as carried out and presented by the Applicant (see "Response to the Office Action", pages 22-23). The Applicant construed that the Examiner did not analyze the experimental data as he mentioned (see "Response to the Office Action", page 3, lines 13-22) which is not the case. In fact the Examiner did scrutinize the data and found an overwhelming amount of repetitive theoretical description, but found the compelling experimental evidence to be inconclusive as presented. It is the Examiner's opinion that the demonstration of the existence of a novel hydrogen species having lower energy states is best demonstrated by a shift in the Lyman series lines towards the far ultra-violet. This data should be compared to the regular hydrogen series. Unfortunately, this analysis and data is missing in the Applicant's experimental evidence presentation.

Art Unit:

The burden of proof rests with the Applicant in that he has to show to the Examiner that the experimental evidence demonstrates the existence of a novel hydrogen species and compositions of matter comprising new forms of hydrogen which is based upon the binding energy being greater than that for normal hydrogen. The Examiner cannot correlate the experimental evidence of the spectral analysis as provided by the Applicant with the change in theory which substitutes the fractional integers for the whole integers in the formula for the binding energy (see equation no. 1 in the Specification) which would perturb the dimension of the Bohr radius, increase the binding energy, and subsequently demonstrate the existence of a novel form of a hydrogen species. The Applicant claims (see page 26, lines 9-26; and page 117, lines 26-33) that the release of energy from hydrogen as evidenced by the extreme ultra-violet (EUV) emission must result in a lower energy state of hydrogen. The Examiner considered the evidence, but questions the validity of the experiments and why this EUV emission was not previously observed.

Applicant's arguments in the "Response, to the Office Action" (Paper #10) and in the "Supplemental Amendment to the Office Action" (Paper #11) have been fully considered but they are not persuasive. The rejections as stated in the previous Office Action (Paper #6) dated July 13, 2001 are applicable to claims 1-10, as well as to the new claims 11-209, and are presented below.

Claim Rejections - 35 USC §101

2. 35 U.S.C. §101 reads as follows:

Art Unit:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-209 are rejected under 35 U.S.C. §101 because the claimed invention is not supported by either a credible asserted utility or a well established utility. The invention is based upon assumptions that are contrary to basic, well established, laws of quantum physics and, therefore, is inoperative and lacks utility. The major points of contention are as follows:

With respect to claims 1-108, the invention claims a cyclotron or a power source as per the independent claims 1 and 11. The power source, power converter, and radio and microwave generator, as claimed, comprise an energy cell for the catalysis of atomic hydrogen to form novel hydrogen species and compositions of matter comprising new forms of hydrogen, an applied magnetic field, and at least one antenna that receives power from a plasma formed by the catalysis of hydrogen. These novel hydrogen species and compositions of matter comprising new forms of hydrogen are based upon the binding energy being greater than for normal hydrogen, which up to now has not been shown to exist: (a) hydride ion having a binding energy that is greater than the binding of ordinary hydride ion (about 0.8 eV); (b) hydrogen atom having a binding energy greater than about 13.6 eV; (c) hydrogen molecule having a first binding energy greater than about 15.5 eV; and (d) molecular hydrogen ion having a binding energy greater than about 16.4 eV.

Art Unit:

A hydrogen atom with its electron in a lower than “ground state” energy level corresponds to a fractional quantum number (defined in the invention as a hydrino) which, up to now, is not possible by contemporary quantum physics.

The cyclotron, as claimed, comprises: a cell for containing ions formed by catalysis of hydrogen during operation of the cyclotron, wherein the hydrogen catalysis comprises a reaction between hydrogen atoms and a catalyst having a net enthalpy of reaction of about $m/2 \times 27.2$ eV, where m is an integer greater than 1, that releases energy from the hydrogen atoms and forms hydrogen atoms having lower energy states, which up to now, have not been shown to exist.

With respect to claims 109-205, the invention claims a method of making power using a cyclotron comprising a cell, a source of hydrogen in communication with the cell, a source of catalyst having a net enthalpy of reaction of about $m/2 \times 27.2$ eV, where m is an integer, in communication with the cell, a source of a magnetic field, and at least one antenna, wherein a hydrogen catalysis reaction occurs between the hydrogen atoms and the catalyst that releases energy from the hydrogen atoms and forms hydrogen atoms having lower energy states, which up to now, have not been shown to exist.

With respect to claims 206-209, the invention claims a method of making lower-energy hydrogen, which up to now, has not been shown to exist, by reacting hydrogen atoms with various ion catalysts.

Art Unit:

In summary, the claimed invention is inoperative and, therefore lacks utility since it is based upon the creation and use of a novel hydrogen species and compositions of matter that are impossible by contemporary quantum physics and that have not been shown to exist.

Claim Rejections - 35 USC § 112

4. Claim 1-209 are also rejected under 35 U.S.C. §112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

5. Claims 5-10 are improperly dependent upon claim 1 since they claim a compound and do not further limit a power source, power converter, and radio and microwave generator of claim 1.

Regarding claim 4, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit:

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record (as previously provided in Paper #6) and not relied upon is considered pertinent to applicant's disclosure. Spence et al. (5,789,744) disclose a method for the production of atomic ion species from an electron cyclotron resonance ion source by adding catalyzing agents to the ion discharge.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (703) 305-0416. The examiner can normally be reached 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (703) 308-4116. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3230. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nikita Wells

July 16, 2002